



MINI INDUSTRIAL FIBER MEDIA CONVERTER

Product Data Sheet



Industrial Fiber Media Converter

The Mini Industrial Fiber Media Converter stands out as an exceptional solution for businesses seeking a seamless transition between Fast Ethernet and Gigabit Ethernet. Its cost-effective, entry-level design ensures that users can effortlessly implement media conversion without the need for complex configurations. With its plug-and-play capability, setting up the converter is as simple as connecting it to your existing network infrastructure. Compact in size, this device is perfect for environments where space is at a premium, allowing you to optimize your setup without compromising on performance. Built to withstand extreme conditions, it operates efficiently within a wide temperature range of -30°C to 75°C and features an IP40 rugged case that protects against dust and debris. This durability makes the Mini Industrial Fiber Media Converter ideal for deployment in challenging locations like factories, transportation hubs, and outdoor settings where fluctuating temperatures are common.

Main Features

- Compliant with IEEE 802.3u/802.3z/802.3ab
- Choice of SC/ST/LC SFP connector for MM & SM
- Full/Half Duplex, Auto-Negotiation and Auto-MDI/MDIX
- All SFP ports are multi-rate 100Mb/Gigabit – support single and multimode, single or dual fibre options up to 120Km
- Robust IP40 Aluminum Metal Enclosure for Harsh Environments
- Compact size – ideal for confined spaces, including camera polys and roadside cabinets.
- Operate stably under the Temperature Range of -30 or +75°C
- DIP-switch to set different configuration, ex. LFP: Link Fault Pass Through
- Plug & Play – no need for any user configuration
- Both Desktop and Wall Mounting installation



Product Specifications

Hardware Specifications		
Model	FR-2701	FR-2703
Ports	1x10/100Base-TX RJ45 1x100Base-X SFP	1x10/100/1000Base-T RJ45 1x1000Base-X SFP
Port Mode(Tx)	Auto Negotiation Speed Full/Half Duplex Mode Auto MDI/MDI-X Connection	
Maximum Packet Length	Up to 10K	
Forward Filter Rate	14,880pps(10Mbps) 148,800pps(100Mbps) 1,488,000pps(1000Mbps)	
Transmission Mode	Store and Forward (full/half duplex mode)	
Transmission Distance		
Optical Fiber Port	Depends on optical module(0-160km)	
Copper RJ45 Port	100m (using standard CAT5/CAT5e cable)	
Power		
Input Power	DC 9-56V, 0.5/0.25Aa	
Power Consumption	2.4W Max. 0.2A@12VDC	
Physical Characteristics		
Housing	Aluminum case	
IP Rating	IP40	
Dimensions	36.2mm*117mm*24.5mm	
Weight	100g(Bare weight), 250g(With package)	
Installation	Wall Mount and Desktop	
Environmental		
Operating Temperature	-30°C to +75°C (-30 to 167 °F)	
Operating Humidity	5%~90% (non-condensing)	
Storage Temperature	-30°C to +85°C (-30 to 185 °F)	
MTBF	>500,000 hours @MIL-HDBK-217F GF 25°C	
Heat Dissipation	7 BTU/h	
Cooling	Passive Cooling	
Noise Level	0 dBA	
Package Contents		
Device	1x Industrial Media Converter	
Installation Kit	1x Caps, plastic, for SFP Slots, 2 x Wall-Mount Kits(Fixed to the device)	
Documentation	1x Quick installation guide,1x Warranty card,1x Product notice	

Product Specifications

DIP Switch			
No.	Function	State	Description
SFP Port Configuration			
1	LFP	OFF	Disable
		ON	Enable
2	ALS	OFF	Disable
		ON	Enable
3	FX Reset	OFF	Disable
		ON	Enable
4	FX Speed(Effect on FR-2703)	OFF	FX Speed 1000M
		ON	FX Speed 100M/1000M
1x9 Module Configuration			
1	LFP	OFF	Disable
		ON	Enable

Note: 1. LFP: Link Fault Pass Through
 2. ALS: Automatic Laser Shutdown Function
 3. FX Reset : If it is enabled, when the FX link is down, the power will shut down. A few seconds later, the power will restart automatically.

LEDs	States	Description
PWR	On	The device is powered on
LINK/ACT	On	The twisted pair is connected well, but there is no data transmission.
	Blinking	The port is sending or receiving data
SPD	On	The port is operating at 100Mbps(RJ45) (FR-2701) The port is operating at 1000Mbps(RJ45) (FR-2703)
	Off	The port is operating at 10Mbps(RJ45) (FR-2701) The port is operating at 10/100Mbps(RJ45) (FR-2703)
FX/SPD (Effect on FR-2703)	On	The optical fiber port is operating at 1000M
	Off	The optical fiber port is operating at 100M
FX/LNK	On	The optical fiber cable is connected well, but there is no data transmission
	Blinking	The port is sending or receiving data

Regulatory & Warranty

Standard Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet
ISO	Manufactured in ISO-9001 facility
Safety	IEC62368-1:2020+A11:2020
EMI	FCC Part 15B Class A, IEC 61000-3-2
EMS	IEC61000-4-2 ESD: Contact:±8kV, Air:±15kV IEC61000-4-5 Surge: Power: ±4kV; RJ45:±2kV
Shock	IEC 60068-2-27
Free Fall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Environmental	RoHS 2011/65/EU Annex II(EU)
Warranty	3 Years, Details See: https://fiberroad.com/warranty

Accessories(Sold Separately)

Power Adapter

1AA-120-0100-A	Input: AC100-240V, Output: DC12V-1A
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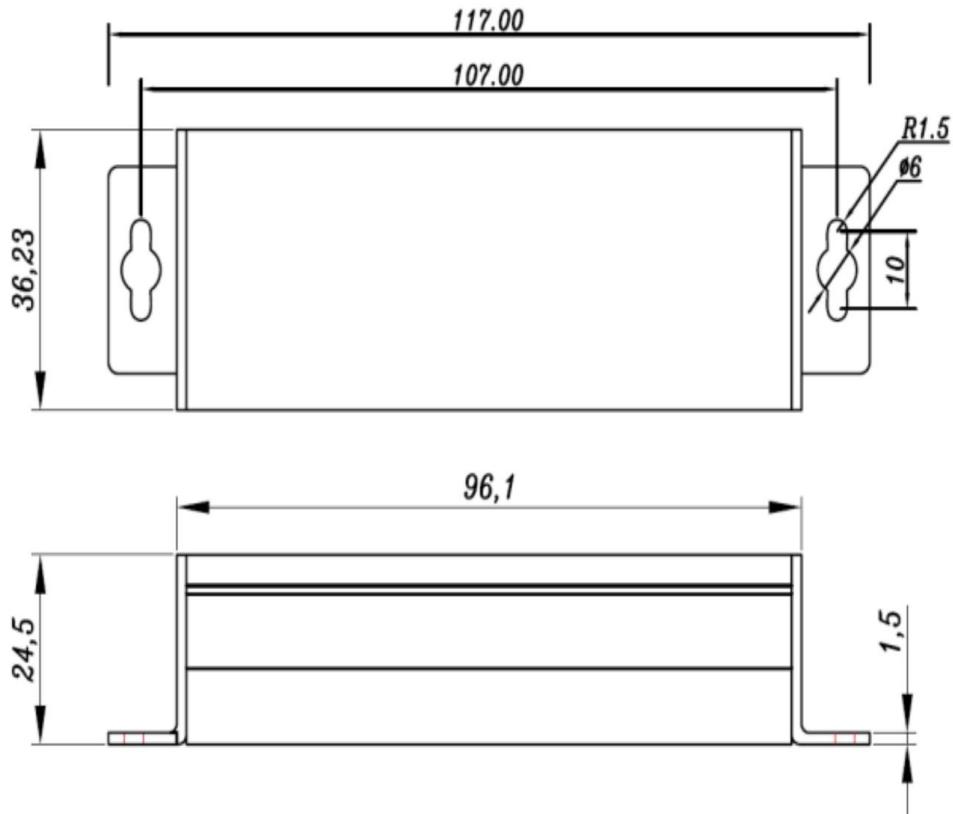
SFP Optical Transceiver

FRSX-1L311C-I	1.25Gb/s 1310nm 10km SFP, operation temperature : -30°C to +85°C
FRSX-1L341C-I	1.25Gb/s 1310nm 40km SFP, operation temperature : -30°C to +85°C
FRSX-1L5X1C-I	1.25Gb/s 1550nm 80/100km SFP, operation temperature : -30°C to +85°C
FRSX-1L3523/5323C-I	1.25Gb/s 1310nm/1550nm 20km SFP, operation temperature : -30°C to +85°C

Armored Fiber Patch Cable / LAN Cable

FRPC-A-LC	Armored LSZH LC UPC to LC UPC Duplex OS2 single mode 7.0mm for Outdoor Application , 1-50m
FRLC-A-CAT6	Armored Cat6 Snagless shielded(SFTP) Ethernet Network Patch Cable, 26AWG, 1000Base-T, 0.5m - 3m

Dimensions Unit: mm



Precautions

To avoid damage to the equipment and personal injury caused by improper use, please observe the following precautions:

- ❖ Keep the power off during installation, wear an anti-static wrist, and ensure that the anti-static wrist is in good contact with the skin to avoid potential safety hazards.
- ❖ The switch can work normally under the correct power supply. Please confirm that the power supply voltage matches the voltage indicated by the switch.
- ❖ Before powering on the switch, please make sure that the power circuit is not overloaded, so as not to affect the normal operation of the switch and even cause unnecessary damage.
- ❖ To avoid the risk of electric shock, do not open the case while the switch is working, even if it is not charged, do not open it yourself.
- ❖ Before cleaning the switch, pull out the power plug of the switch. Do not wipe with a wet cloth. Do not use liquid to clean it.
- ❖ The equipment installed in the rack is generally from bottom to top to avoid overload installation.
- ❖ Avoid placing other heavy objects on the surface of the switch to avoid accidents.

Order Information

Model Number	10/100Base-TX, RJ45	10/100/1000Base-T, RJ45	100Base-X Port	1000Base-X Port	Optical Port Connector Option	Input Voltage	Operating Temp.
FR-2701	1	\	1	—	LC/SC/FC/ST	DC9-56V	-20 to +70°C
FR-2703	\	1	\	1	LC/SC/FC/ST	DC9-56V	-20 to +70°C

Shipping

Model No.	FR-2701(SFP)	FR-2703(SFP)
Classification Codes	HS Code: 851762 HTS: 8517.62.00	
NDAA Compliant	Yes	
Individual Gross Weight	250g	
Individual Package Dimension	165x150x50mm	
Package Quantity	60Units	
Package Gross Weight	16kg	
Package Dimension	535x345x470mm	

The information in this document is subject to change without notice. Fiberroad Technology., Ltd has made all efforts to ensure the accuracy of the information, but all information in this document does not constitute any kind of warranty. Visit our website for the most up-to-date product information

For more information

For more information about Fiberroad Industrial Ethernet series products, Visit <https://www.fiberroad.com> or contact your local account representative.